



**Solar  
Electric Power  
Association**

*Energy Service Providers Bringing PV into the Mainstream*

# **Position Statement On Photovoltaic Interconnection**

Released October 2000

## Forward

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It is widely perceived that the electric services and utility industry needs to open up to customer-friendly, yet safe, interconnection procedures for small PV systems in order for solar electricity to become a mainstream option for customers. The Solar Electric Power Association, formerly the Utility PhotoVoltaic Group (UPVG) is uniquely positioned to lead this change and to encourage utilities, on a peer-to-peer level, to simplify interconnection requirements for photovoltaic systems.

Simplified interconnection includes technical and business/contractual simplification. Technical simplification requires implementing the three important standards and codes—IEEE 929, UL 1741, and NEC 690. Contractual simplification requires eliminating onerous interconnection policies and contractual procedures that are barriers to easy market transactions and that are costly or impractical for smaller-sized PV systems. The Solar Electric Power Association, the “Association”) has consistently worked on the technical side, and only recently has begun venturing onto the contractual side. The technical-only focus is too narrow and isn’t sufficient to create the market transformation desired.

### Background:

A number of steps have already been taken by the Solar Electric Power Association and PV stakeholders to eliminate barriers:

- IEEE 929-2000, Recommended Practice for Utility Interface of Photovoltaic (PV) Systems, is a recommended practice to ensure safe interconnection of PV systems with the electric grid published by the Institute of Electrical and Electronic Engineers.
- UL 1741 is a test procedure to verify that an inverter meets the requirements of IEEE 929.
- National Electrical Code Article 690, Solar Photovoltaic Systems is published by the National Fire Protection Association, Inc.
- The Solar Electric Power Association has promoted these technical standards as part of its TEAM-UP Technical Performance Specifications since 1995.
- The Association has consistently encouraged Members to adopt IEEE 929 in the Million Solar Roofs Member Challenge and in the web-published Technical Director’s Column.
- The Solar Electric Power Association (as the UPVG) was awarded a Million Solar Roofs contract to conduct four workshops on interconnection, focusing on technical and non-technical aspects for MSR partnerships. The Solar Electric Power Association anticipates using the materials developed to conduct future workshops after the award period is complete.

*The Solar Electric Power Association Position Statement on Photovoltaic Interconnection is attached. This statement was approved by the Solar Electric Power Association Board of Directors on October 2, 2000.*

**The Solar Electric Power Association  
Position Statement on Photovoltaic Interconnection Issues in the U.S.**

**SUMMARY**

**The Solar Electric Power Association, formerly the Utility PhotoVoltaic Group (UPVG) recommends that all electric utilities and other electric service providers implement uniform, simplified interconnection procedures for photovoltaic (PV) systems.** Implementation of these procedures, covering both technical and contractual aspects of interconnection, is a crucial, reasonable, and timely step toward realizing the potential of clean, renewable, and reliable solar power. Inconsistent and, at times, inappropriate requirements for interconnection are creating unnecessary barriers to wider use of PV.

This Position Statement was developed and is being promoted to raise awareness and provide information useful to utilities, regulators, and others. This statement references important standards, new policies, and sample procedures that have been successfully implemented to simplify interconnection of these generation sources.

The Solar Electric Power Association's Position Statement on Interconnection consists of two companion documents. The first, Technical Aspects of PV Interconnection, explains how technical issues such as safety and power quality have been dealt with by standards-making bodies and how these standards have been implemented by utilities. **The Association finds that three national standards – the Institute for Electrical and Electronic Engineers Recommended Practice 929-2000, the Underwriters Laboratories Test Procedure 1741, and the National Electrical Code Article 690 – are sufficient to form a basis for uniform, simplified technical interconnection guidelines. Moreover, several utilities have successfully translated the standards into practical application.** Substantial field experience confirms that these standards ensure safe operation of PV systems connected to the grid.

The second document, Contractual Aspects of PV Interconnection, highlights a number of issues that have been identified as barriers to wider use of PV. These issues include protocols for customer-utility interaction, insurance requirements, and fees, all of which need to be reviewed with a goal of reducing administrative burdens. **The Solar Electric Power Association encourages all utilities to methodically simplify and streamline the contractual aspects of small PV system interconnection. Reducing costs associated with contractual aspects of PV interconnection is in the best interest of both customers and utilities.**

Issues of metering, rates, and tariffs go beyond the scope of this position statement – they are tied in with a much broader range of issues. In this Position Statement, the Solar

Electric Power Association hopes to obtain consensus on a smaller set of technical and contractual issues that will simplify PV system interconnection and promote wider use of clean, renewable, and reliable solar power. The debates over metering, rates, and tariffs can then take place without having to involve issues that, in most cases, can be straightforwardly resolved.

Interconnection issues will continue to grow in importance as other distributed generation technologies are brought to the market. The Solar Electric Power Association anticipates that there will be significant overlap between the PV system issues dealt with here and the issues facing interconnection of other distributed generation technologies. This Position Statement establishes a framework for identifying common issues.

The Solar Electric Power Association acknowledges the important work being done by stakeholders including the American Solar Energy Society, the Interstate Renewable Energy Council, the National Association of Regulatory Utility Commissioners, the North Carolina Solar Center, and the Distributed Power Coalition of America to call attention to these issues.

Members of the Solar Electric Power Association have developed significant insight in these areas and can be of assistance to other utilities. The Solar Electric Power Association extends an offer of its expertise in areas related to PV interconnection to other utilities with the goal of removing barriers to wider use of PV. The Solar Electric Power Association will also track progress in these areas, serving an important public education role.

The Solar Electric Power Association asks utilities to sign on to one or both of the companion documents that have been developed. By signing on to the Technical Aspects of PV Interconnection and the Contractual Aspects of PV Interconnection, utilities indicate their agreement with the recommendations presented.

*Solar Electric Power Association Membership includes a broad spectrum of the PV electricity industry – more than 130 members that represent investor-owned utilities and their subsidiaries, public power systems, rural electric cooperatives, and the PV Industry (PV and component manufacturers, distributors, and system integrators). Solar Electric Power Association members account for nearly 50% of total U.S. electricity sales (1.5 Billion MWh in 1998) and have some 40 million customers. Stakeholder Members include 25 research organizations, educational institutions, and state and local organizations.*

*COMPANION DOCUMENT #1:*

**TECHNICAL ASPECTS OF PV INTERCONNECTION**

The Solar Electric Power Association has advocated technically-sound specifications for PV systems since its inception. The Association has required stringent technical specifications of all PV projects (some 1,300 PV systems in total installed between 1996 and 2000) co-funded by its TEAM-UP partnership with the Department of Energy. In fact, the Association's Technical Performance Specifications developed for the program have become a nationally-recognized guideline. Recently, national standards-setting authorities, including the Underwriters Laboratories (UL) and the Institute of Electrical and Electronics Engineers (IEEE), have developed new standards and procedures to ensure safe operation of grid-connected PV systems. Two key standards (IEEE 929-2000 and UL 1741, described below), were developed through an extensive, consensus-based process involving utilities, inverter manufacturers, national laboratories, and other stakeholders. In addition, the National Electrical Code (NEC) Article 690 covers important safety aspects related to PV system design. These standards address all legitimate technical concerns, such as safety and power quality, and thus clear the way for simplified interconnection on a technical level.

The approval of IEEE 929-2000, Recommended Practice for Utility Interface of Photovoltaic Systems by the IEEE Standards Board on 30 January 2000 is an important step for safe interconnection. IEEE 929-2000 is a standard to which PV interconnection hardware can be designed, removing a costly and inefficient situation where different utilities and jurisdictions require different and specialized hardware. Not only does IEEE 929-2000 simplify PV interconnection, it is also the first IEEE standard allowing interconnection of non-utility-owned generation equipment. The IEEE 929-2000 standard applies to the PV inverter, the device that converts the PV system's dc electricity into ac electricity compatible with the utility grid (inverters are more formally known as "static power converters").

IEEE 929-2000 includes very specific requirements for systems of up to 10 kW, but it is relevant to PV systems of all sizes. In fact, the IEEE 929-2000 standard makes three distinctions based on the size of PV systems:

- systems rated at 10 kW or less
- systems rated between 10 kW and 500 kW
- systems rated above 500 kW.

The IEEE 929-2000 standard development process also had a parallel effort to develop procedures so that an independent laboratory, can test the safety features of a particular inverter type. The UL test procedure is UL 1741, Standard for Inverters, Converters and Controllers for Use in Independent Power Systems. In sum, inverters that pass UL 1741 tests are guaranteed to meet IEEE 929-2000; such inverters do not need additional protective equipment to prevent islanding or filters to maintain power quality. There are many brands of utility-interactive inverters produced today that are able to meet the exacting requirements of IEEE 929-2000.

### *IEEE 929-2000: Safety*

Utilities and the PV community now have an approved interconnection standard that ensures the safe operation of a PV system connected to a utility grid. Safety – for the utility lineman, for the utility equipment, and for the customer – was the primary concern throughout the development of the interconnection standard. The IEEE 929-2000 standard includes tightly-defined specifications that require the PV system inverter to cease to energize the utility line for specific out-of-tolerance conditions such as voltage and frequency trip settings when values are outside of acceptable limits. These inverters also include sophisticated and reliable anti-islanding protocols that include active detection functions to ensure that the inverter does not deliver power to the utility system when utility power is cut off or disconnected from the inverter. Additionally, detection functions ensure that the inverter will cease to energize the utility line when an excess of dc current is present at the ac interface.

### *IEEE 929-2000: Power Quality*

The quality of power provided by the PV system must meet specifications for voltage, flicker, frequency, and distortion. Out-of-bounds conditions for any of these variables require the inverter to cease to energize the utility line. Voltage and frequency set points for systems larger than 10 kW may be altered by the utility to accommodate system-specific needs.

It is also important to note the proper role of the National Fire Protection Association, which is responsible for the National Electrical Code (NEC). Interconnected PV systems should be installed in accordance with Article 690 of the National Electrical Code (NEC), and in compliance with local building and electrical codes. In addition, PV installations should be permitted and inspected by the appropriate local jurisdictional authority.

## HIGHLIGHTS OF INTERCONNECTION ISSUES FOR DIFFERENT SIZE SYSTEMS

IEEE 929-2000 offers recommended practices based on PV system size because the size of the PV system relative to the capability of the utility line it is connected to affects the impact of interconnecting a PV system.

### 1. Systems under 10 kW:

No additional protection equipment (such as relays or isolation transformers), testing, engineering reports, or other conditions beyond that specified by IEEE 929-2000, UL 1741, and NEC 690 should be required of grid-tied PV systems under 10 kW to address technical concerns.

Manual external disconnects should not be required for PV systems under 10 kW. For UL-listed, non-islanding inverters, which already have external AC disconnects, an additional external AC disconnect is redundant.

A utility may, with customer consent, arrange for periodic maintenance checks, although such maintenance checks are largely unnecessary for small-sized inverters.

Utilities and regulators should be aware that the economics of systems in this size category are such that any non-standard requirements can have a significant impact on the economics of a PV system. This is another reason that Solar Electric Power Association recommends that utilities and regulators consider simply adopting the standards of nationally-recognized bodies, without modification for small-sized inverters.

## 2. Systems between 10 kW and 500 kW:

IEEE 929-2000 also provides guidelines for PV systems between 10 kW and 500 kW. Although IEEE 929-2000 does not directly address the full diversity of unique local grid conditions, utilities and regulators should find that three national standards – IEEE 929-2000, UL 1741, and NEC 690 – can be used as the basis for interconnection procedures for PV systems between 10 kW and 500 kW. Utilities should carefully consider whether any deviations or extra requirements for systems between 10 kW and 500 kW are, in fact, technically necessary – again realizing that uniform and simplified technical interconnection procedures will benefit both the utility and the customer.

Experience of Association Member utilities shows that in many cases, just the three national standards are sufficient for systems up to a range of 100 to 250 kW in size. Other utilities and regulators should consider this experience before requiring additional protection equipment, testing, engineering reports, or other conditions. As always, any additional requirements placed on interconnection should be based only on legitimate technical concerns.

Utilities and regulators may also want to consider that the simplest requirements (for systems 10 kW and under) may also be applicable up to 50 kW in size. Thus, utilities and regulators might also consider it unnecessary from a technical standpoint to add protection equipment (such as relays or isolation transformers), testing, engineering reports, or other conditions beyond that specified by IEEE 929-2000, UL 1741, and NEC 690 for grid-tied PV systems up to 50 kW. The reasoning is that a 50 kW PV system size matches well with the conventional residential electric supply of 240 volts at 200 amps service. (The 240 volts at 200 amps at unity power factor would equal 48 kW.) Utilities normally do not require special studies or equipment for this common load connection, and therefore the analogy is that the simple requirements should appropriately also apply to interconnection at this level. Of course, some adjustments, such as different setpoints, may be appropriate; such adjustments would not noticeably affect the goal of simplified interconnection.

### 3. Systems larger than 500 kW:

It is clear that the larger the PV system, the larger the potential impact it may have on a utility line. Utility interconnection procedures for these larger systems will undoubtedly use a mix of standardized and customized requirements.

Utilities and regulators can use these three national standards – IEEE 929-2000, UL 1741, and NEC 690 – as the basis for interconnection procedures for PV systems greater than 500 kW. Additional procedures and conditions should be used only as appropriate to address legitimate technical concerns.



*COMPANION DOCUMENT #2:*

**CONTRACTUAL ASPECTS OF PV INTERCONNECTION**

The interconnection agreement between the customer-generator and their utility needs to be as simple as possible. It is in the interest of both the customer and the utility that the paperwork involved in establishing an interconnection agreement be easily read, understood, and signed by non-attorneys and non-engineers. Simplified interconnection agreements are already being used by a number of utilities around the country and are as short as one page. (note: a sample contract is included at the end of this document)

Some common issues are mentioned below. The list, which is not exhaustive, is intended to identify the kinds of contractual issues that can be viewed as overly-burdensome. In many cases, these issues are being worked out in state proceedings or other forums. Without going into specifics, the Solar Electric Power Association recommends that all utilities methodically simplify and streamline contractual aspects of interconnection.

Issues of metering, rates, and tariffs go beyond the scope of this position statement – tied in with a much broader range of issues. In this companion document, the Association hopes to obtain consensus on a smaller set of contractual issues that will simplify interconnection and promote wider use of clean, renewable, and reliable solar power. The debates over metering, rates, and tariffs can then take place without having to involve issues that, in most cases, can be straightforwardly resolved.

Insurance and indemnification.

Any requirements for insurance and indemnification should be reasonable. It may not be necessary for customer-generators to be required to purchase additional liability insurance if the customer already has coverage of at least \$100,000 (for residential systems) or \$250,000 (for commercial systems). Moreover, utilities and regulators should be aware that it may be inappropriate to require customer-generators to indemnify their utility.

Processing of interconnection agreements.

Utilities and regulators should ensure a timely period (about ten working days) in which customers are notified that an interconnection agreement has been accepted once the agreement has been submitted by the customer-generator. If a utility wishes to inspect a system prior to its interconnection, it should do so within the same timely period after submittal of the agreement by the customer. The utility should notify the customer-generator of an upcoming inspection, so that the customer can have the system installer present, if needed.

Utilities should designate and publicly announce a specific point of contact - an office or an individual employee - responsible for expediting connection requests and working with customers and PV system installers on interconnection issues. This would address the frequent complaint that their requests for interconnection have been ignored, delayed

or passed off from one person to another, leading to lengthy delays before the customer receives an appropriate response. The Association offers to host and maintain this list of contacts on its publicly accessible Internet site.

#### Access to customer premises.

It should not be necessary for utilities to have greater access to a customer's property than it already has in order to inspect meters or utility lines. Once the interconnection agreement has been approved by the utility, if a utility wishes to inspect a system, it should have a reasonable cause, such as safety, and should have the consent of the customer.

#### Conflict resolution.

A neutral third party – in most cases the state utility commission or (for publicly-owned utilities) the utility board – should be established to provide a simple conflict resolution process to deal with issues that may arise regarding interconnection requirements between utilities and owners of small-scale, grid-connected PV systems.

#### Fees.

Utilities and regulators should be aware that even seemingly-modest fees can be “deal-killers,” especially for small PV systems. Monthly charges (utilities have cited standby or metering as justifications) and other fees (such as inspection, etc.) are routinely cited as a deterrent to ownership of small systems. For example, a \$5 monthly metering charge on a typical 2 kW PV system would consume 19% of the monthly energy savings.<sup>1</sup>

Although the Association makes no recommendations regarding fees or charges, comparison to how a utility assesses fees on an increase in load could be useful, *particularly for small PV systems*. For example, utilities often do not charge a special fee if there is an increase in load (e.g., a second refrigerator, adding a central air conditioning unit) – in fact, they would be hard pressed to track such changes at an individual customer location. In all cases the utilities and regulators should strive to establish fees that are reasonable and justified.

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<sup>1</sup> Example from Kelso, Starrs, and Associates.

## SAMPLE Standard Interconnection Contract

(Note: The following sample contract is provided by the Solar Electric Power Association for convenience and to provide guidance for utilities and energy service providers. This sample may be utilized to establish contracts for those that have not established interconnection contracts for PV systems. This sample may be used at your own risk.)

### STANDARDIZED CONTRACT

#### FOR INTERCONNECTION OF NEW DISTRIBUTED

#### GENERATION UNITS WITH CAPACITY OF 1000 kVA OR LESS

##### Customer Information:

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_

##### Company Information:

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_

### DEFINITIONS

"Interface Facilities" means the equipment and facilities on the Company's system necessary to permit operation of the Unit in parallel with the Company's system.

"Delivery Service" means the services the Company may provide to deliver capacity or energy generated by Customer to a buyer to a delivery point(s), including related ancillary services.

"SIR" means the (state) standardized interconnection requirements for new generating units with a nameplate capacity of 1000 kVA or less to be operated in parallel with the Company's transmission and distribution system.

"Unit" means the distributed generation unit with a nameplate capacity of less than 1000 kVA located on the Customer's premises at the time the Company approves such unit for operation in parallel with the Company's system.

### I. TERM AND TERMINATION

1.1 Term: This Agreement shall become effective when executed by both Parties and shall continue in effect for the useful life of the generating unit(s) as published by the manufacturer. Extensions may occur through good faith negotiations between the parties.

1.2 Termination: This Agreement may be terminated as follows by either party by giving the other Party at least sixty (60) days' prior written notice to terminate this Agreement in the event that the other Party is in default of any of the material terms and conditions of this Agreement. The terminating Party shall specify in the notice the basis for the termination and shall provide a reasonable opportunity to cure the default.

## II. SCOPE OF AGREEMENT

2.1 Scope of Agreement: This Agreement relates solely to the conditions under which the Company and the Customer agree that the Unit may be interconnected to and operated in parallel with the Company's system.

## III. INSTALLATION, OPERATION AND MAINTENANCE OF UNIT

3.1 Compliance with SIR: Subject to the provisions of this Agreement, the Company shall be required to interconnect the Unit to the Company's system, for purposes of parallel operation, if the Unit is in compliance with the SIR.

3.2 Observation of the Unit - Construction Phase: The Company may, in its discretion, conduct reasonable on-site verifications during the construction of the Unit. For purposes of this paragraph and paragraph 3.3, the term "on-site verification" shall not include testing of the Unit, and verification tests shall not be required except as provided in paragraph 3.3.

3.3 On-Site Verification Testing of the Unit Prior to Start-up: The Company may conduct on-site verifications of the Unit and observe the performance of verification testing within a reasonable period of time, not exceeding fourteen days, after receiving a written request from the Customer to begin producing energy in parallel with the Company's system. The Company may allow or prohibit startup based upon the verification test results.

If the Company does not perform an on-site verification of the Unit nor observe the performance of verification testing, the Customer may begin to produce energy within fourteen days after certifying to the Company that the Unit has been installed and tested in accordance with the requirements of the SIR. After receiving the certification, the Company may conduct an on-site verification of the Unit. However, the Customer shall not be required to perform the verification tests a second time, unless irregularities appear in the verification test report or there are other objective indications that the tests were not properly performed in the first instance.

## IV. DISCONNECTION OF THE UNIT

4.1 Emergency Disconnection: The Company may disconnect the Unit, without prior notice to the Customer (a) to eliminate conditions that constitute a potential hazard to Company personnel or the general public; (b) if pre-emergency or emergency conditions exist on the Company system; (c) if a hazardous condition relating to the Unit is observed by a utility inspection; (d) the Unit interferes with Company equipment or equipment belonging to other customers of the Company; or (e) if the Customer has tampered with any protective device. The Company shall notify the Customer of the emergency if circumstances permit.

4.2 Non-Emergency Disconnection: The Company may disconnect the Unit, after reasonable notice to the responsible party has been provided, if a planned outage is scheduled on the paralleled line.

4.3 Disconnection by Customer: The Customer may disconnect the Unit at any time.

## V. ACCESS

5.1 Access to Premises: The Company shall have access to the disconnect switch of the Unit at all times. At reasonable hours and upon reasonable notice consistent with Section III of this Agreement, or at any time without notice in the event of an emergency (as defined in paragraph 4.1), the Company shall have access to the Premises.

5.2 Company and Customer Representatives: The Company shall designate, and shall provide to the Customer, the name and telephone number of a representative or representatives who can be

reached at all times to allow the Customer to report an emergency and obtain the assistance of the Company. For the purpose of allowing access to the premises, the Customer shall provide the Company with the name and telephone number of a person who is responsible for providing access to the Premises.

5.3 Company Right to Access Company-Owned Facilities and Equipment: The Customer shall secure and provide in favor of the Company the necessary rights to obtain access to the Company's equipment or facilities, including easements if the circumstances so require.

## VI. DISPUTE RESOLUTION

6.1 Good Faith Resolution of Disputes: Each Party agrees to attempt to resolve all disputes arising hereunder promptly, equitably and in a good faith manner.

6.2 Mediation: If a dispute arises under this Agreement, and if it cannot be resolved by the Parties within ten (10) working days after written notice of the dispute, the parties agree to submit the dispute to mediation by a mutually acceptable mediator, in a mutually convenient location in Delaware. The parties agree to participate in good faith in the mediation for a period of 90 days. If the parties are not successful in resolving their disputes through mediation, then the parties may refer the dispute for resolution to the Public Service Commission, which shall maintain continuing jurisdiction over this agreement.

## VII MISCELLANEOUS PROVISIONS

7.1 Severability: If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction, such portion or provision shall be deemed separate and independent, and the remainder of this Agreement shall remain in full force and effect.

7.2 Entire Agreement: This Agreement constitutes the entire Agreement between the parties and supersedes all prior agreements or understandings, whether verbal or written.

7.3 Waiver: No delay or omission in the exercise of any right under this Agreement shall impair any such right or shall be taken, construed or considered as a waiver or relinquishment thereof, but any such right may be exercised from time to time and as often as may be deemed expedient. In the event that any agreement or covenant herein shall be breached and thereafter waived, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive any other breach hereunder.

7.4 Applicable Law: This Agreement shall be governed by and construed in accordance with the law of the State of \_\_\_\_\_.

7.5 Amendments: This Agreement shall not be amended unless the amendment is in writing and signed by the Company and the Customer.

7.6 Force Majeure: For purposes of this Agreement, "Force Majeure Event" means any event: (a) that is beyond the reasonable control of the affected Party; and (b) that the affected Party is unable to prevent or provide against by exercising reasonable diligence, including the following events or circumstances, but only to the extent they satisfy the preceding requirements: acts of war, public disorder, insurrection, or rebellion; floods, hurricanes, earthquakes, lightning, storms, and other natural calamities; explosions or fires; strikes, work stoppages, or labor disputes; embargoes; and sabotage. If a Force Majeure Event prevents a Party from fulfilling any obligations under this Agreement, such Party will promptly notify the other Party in writing, and will keep the other Party informed on a continuing basis of the scope and duration of the Force Majeure Event. The affected Party will specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the affected Party is taking to mitigate the

effects of the event on its performance. The affected Party will be entitled to suspend or modify its performance of obligations under this Agreement, but only to the extent that the effect of the Force Majeure Event cannot be mitigated by the use of reasonable efforts. The affected Party will use reasonable efforts to resume its performance as soon as possible.

7.7 Assignment to Corporate Party: At any time during the term, either Party may assign this Agreement to a corporation or other entity with limited liability, provided that the Party obtains the consent of the other Party. Such consent will not be withheld unless the other Party can demonstrate that the corporate entity is not reasonably capable of performing the obligations of the assigning Party under this Agreement.

7.8 Assignment to Individuals: At any time during the term, a Customer may assign this Agreement to another person, other than a corporation or other entity with limited liability, provided that the assignee is the owner, lessee, or is otherwise responsible for the Unit.

7.9 Permits and Approvals: Customer shall obtain all environmental and other permits lawfully required by governmental authorities prior to the construction and for the operation of the Unit during the term of this Agreement.

7.10 Limitation of Liability: Neither by inspection, if any, or non-rejection, nor in any other way, does the Company give any warranty, express or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances or devices owned, installed or maintained by the Customer or leased by the Customer from third parties, including without limitation the Unit and any structures, equipment, wires, appliances or devices appurtenant thereto.

ACCEPTED AND AGREED:

Customer: \_\_\_\_\_

Date: \_\_\_\_\_

Company: \_\_\_\_\_

Date: \_\_\_\_\_

## SAMPLE

### Company Generator Interconnection Application - Short Form (For Use with Generators 25 kW or Less)

An applicant (Generator Owner) makes application to \_\_\_\_\_ to install and operate a generating facility of 25kW or less interconnected with the Company utility system.

#### Section 1, Applicant Information

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Facility Location (if different from above): \_\_\_\_\_

Telephone (Daytime): Area Code \_\_\_\_ Number \_\_\_\_\_ (Evening) Area Code \_\_\_\_ Number \_\_\_\_\_

Company Power Delivery Account No. : \_\_\_\_\_ Pole Number: \_\_\_\_\_

Energy Service Provider Name: \_\_\_\_\_ Account No.: \_\_\_\_\_

#### Section 2, Generator Technical Information

Is Generator powered from a Renewable NEM Qualifying Energy Source: Yes No

Type NEM Qualifying Energy Source (if applicable): Solar Wind Hydro

Generator (or solar collector) Manufacturer, Model Name & Number: \_\_\_\_\_

Output Power Rating in kW: \_\_\_\_\_

Inverter Manufacturer, Model Name & Number (if used): \_\_\_\_\_

Rating in kW: \_\_\_\_\_

Will a generator disconnect device, accessible to Company, be installed?: Yes No

If the Generator Owner elects not to install a manual disconnect device accessible to Company, the Generator Owner assumes all risks and consequences when a service meter must be "pulled" to disconnect the generator thereby also interrupting all utility electric service to the Customer site.

#### Section 3, Generator/Equipment Certification

Generating systems that use utilize inverter technology must be compliant with IEEE 929 and Underwriters Lab. UL 1741. Generating systems that use a rotating machine must be compliant with Company Power Delivery's Technical Considerations Covering Parallel Operations of Customer Owned Generation of Less than One (1) MW and Interconnected with the Company Power Delivery System document. By signing below, the Applicant certifies that the installed generating equipment meets the appropriate preceding requirement(s) and can supply documentation that confirms compliance.

Signed (Applicant): \_\_\_\_\_ Date: \_\_\_\_\_

#### Section 4, Installation Details

Generating System will be installed by: Owner State Licensed Electrician

Installing Electrician: \_\_\_\_\_ Firm: \_\_\_\_\_ License No.: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone: Area Code: \_\_\_\_\_ Number: \_\_\_\_\_

Installation Date: \_\_\_\_\_ Interconnection Date: \_\_\_\_\_

Supply certification that the generating system has been installed and inspected in compliance with the local Building/Electrical code of the municipality of \_\_\_\_\_.

Signed (Inspector): \_\_\_\_\_ Date: \_\_\_\_\_

(In lieu of signature of Inspector, a copy of the final inspection certificate may be attached)

#### Section 5, Applicant Signature

I hereby certify that, to the best of my knowledge, all the information provided in the Interconnection Application is true and correct. I also agree to install a Warning Label provided by Company Power Delivery on or near my service meter location.

Signature of Applicant: \_\_\_\_\_ Date: \_\_\_\_\_

Send the completed application to Company Department, Address, State, Zip.

#### Sections Below for Company Power Delivery Use Only

##### Section 6, Approval or Non-Approval

Company Power Delivery: Has Approved Has Not Approved this Interconnection Application.

Name : \_\_\_\_\_ Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Reason of Not Approving:

\_\_\_\_\_



Approval to connect to the Company system indicates only that the minimum requirements for a safe proper interconnection have been satisfied. Such approval does not imply that the Generator Owner's facility meets all federal, state and local standards or regulations.

#### Section 7, Internal Notifications

Send Applicant Warning Label for installing on/ near service meter: Yes

Notify Billing Dept. of Interconnected Generation: Yes

Notify District Engineering of Interconnected Generation: Yes

Notify System Protection of Interconnected Generation: Yes